RAW SEQUENCE LISTING
ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/702,228

Source: IFWO

Date Processed by STIC: 6/2/04

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:
1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY
FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT
MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE **CHECKER VERSION 4.2 PROGRAM**, ACCESSIBLE THROUGH THE U.S PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.
Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.
Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 06/05/04):
   U.S. Patent and Trademark Office, 220 20th Street S., Customer Window; Mail Stop Sequence, Crystal Plaza Two, Lobby, Room 1B03, Arlington, VA 22202

Revised 05/17/04

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        RAW SEQUENCE LISTING                    DATE: 06/02/2004
        PATENT APPLICATION:  US/10/702,228      TIME: 12:05:44

        Input Set : A:\341030US1.txt
        Output Set: N:\CRF4\06022004\J702228.raw

    4 <110> APPLICANT: Slater, Michael R.
    5        Wood, Keith V.
    6        Hartnett, James Robert
    7        Promega Corporation
    9 <120> TITLE OF INVENTION: Vectors for Directional Cloning
   12 <130> FILE REFERENCE: 341.030US1
   14 <140> CURRENT APPLICATION NUMBER: 10/702,228
   15 <141> CURRENT FILING DATE: 2003-11-05
   17 <150> PRIOR APPLICATION NUMBER: 10/678,961
   18 <151> PRIOR FILING DATE: 2003-10-03
   20 <160> NUMBER OF SEQ ID NOS: 92
   22 <170> SOFTWARE: FastSEQ for Windows Version 4.0
   24 <210> SEQ ID NO: 1
   25 <211> LENGTH: 18
   26 <212> TYPE: DNA
   27 <213> ORGANISM: Artificial Sequence
   29 <220> FEATURE:
   30 <223> OTHER INFORMATION: A synthetic DNA fragment
   32 <220> FEATURE:
   33 <221> NAME/KEY: misc_feature
   34 <222> LOCATION: 18
   35 <223> OTHER INFORMATION: n = A, T, G, or C
   37 <400> SEQUENCE: 1
W--> 38 aaggagcgat cgccatgn                                        18
   40 <210> SEQ ID NO: 2
   41 <211> LENGTH: 11
   42 <212> TYPE: DNA
   43 <213> ORGANISM: Artificial Sequence
   45 <220> FEATURE:
   46 <223> OTHER INFORMATION: A synthetic DNA fragment
   48 <220> FEATURE:
   49 <221> NAME/KEY: misc_feature
   50 <222> LOCATION: 8-10
   51 <223> OTHER INFORMATION: n = A, T, G, or C
   53 <220> FEATURE:
   54 <221> NAME/KEY: misc_feature
   55 <222> LOCATION: 11
   56 <223> OTHER INFORMATION: n = an open reading frame
   58 <400> SEQUENCE: 2
W--> 59 cgccatgnnn n                                               11
   66 <210> SEQ ID NO: 3
   67 <211> LENGTH: 12
   68 <212> TYPE: DNA
```

[handwritten annotations: "PJ. 6-7", "Does Not Comply Corrected Diskette Needed (PJ.1)", "'N' CAN only Represent a single Nucleotide", "The type of errors shown exist throughout the Sequence Listing. Please check subsequent sequences for similar errors."]

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      69 <213> ORGANISM: Artificial Sequence
      72 <220> FEATURE:
      73 <223> OTHER INFORMATION: A synthetic DNA fragment
      75 <220> FEATURE:
      76 <221> NAME/KEY: misc_feature
      77 <222> LOCATION: 1-6
      78 <223> OTHER INFORMATION: n = A, T, G, or C
      80 <400> SEQUENCE: 3
W-->  81 nnnnnngtct tc                                          12
      83 <210> SEQ ID NO: 4
      84 <211> LENGTH: 10
      85 <212> TYPE: DNA
      86 <213> ORGANISM: Artificial Sequence
      88 <220> FEATURE:
      89 <223> OTHER INFORMATION: A synthetic DNA fragment
      91 <220> FEATURE:
      92 <221> NAME/KEY: misc_feature
      93 <222> LOCATION: 1-4
      94 <223> OTHER INFORMATION: n = A, T, G, or C
      96 <400> SEQUENCE: 4
W-->  97 nnnngaagag                                             10
      99 <210> SEQ ID NO: 5
     100 <211> LENGTH: 13
     101 <212> TYPE: DNA
     102 <213> ORGANISM: Artificial Sequence
     104 <220> FEATURE:
     105 <223> OTHER INFORMATION: A synthetic DNA fragment
     107 <220> FEATURE:
     108 <221> NAME/KEY: misc_feature
     109 <222> LOCATION: 6-13
     110 <223> OTHER INFORMATION: n = A, T, C, or G
     112 <400> SEQUENCE: 5
W--> 113 gcagcnnnnn nnn                                          13
     115 <210> SEQ ID NO: 6
     116 <211> LENGTH: 11
     117 <212> TYPE: DNA
     118 <213> ORGANISM: Artificial Sequence
     120 <220> FEATURE:
     121 <223> OTHER INFORMATION: A synthetic DNA fragment
     123 <220> FEATURE:
     124 <221> NAME/KEY: misc_feature
     125 <222> LOCATION: 1-5
     126 <223> OTHER INFORMATION: n = A, T, G or C
     128 <400> SEQUENCE: 6
W--> 129 nnnnngagac g                                           11
     132 <210> SEQ ID NO: 7
     133 <211> LENGTH: 11
     134 <212> TYPE: DNA
     135 <213> ORGANISM: Artificial Sequence
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RAW SEQUENCE LISTING   DATE: 06/02/2004
PATENT APPLICATION: US/10/702,228   TIME: 12:05:44

Input Set : A:\341030US1.txt
Output Set: N:\CRF4\06022004\J702228.raw

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    137 <220> FEATURE:
    138 <223> OTHER INFORMATION: A synthetic DNA fragment
    140 <220> FEATURE:
    141 <221> NAME/KEY: misc_feature
    142 <222> LOCATION: 4-8
    143 <223> OTHER INFORMATION: n = A, T, C, or G
    145 <400> SEQUENCE: 7
W--> 146 gccnnnnngg c                                              11
    148 <210> SEQ ID NO: 8
    149 <211> LENGTH: 14
    150 <212> TYPE: DNA
    151 <213> ORGANISM: Artificial Sequence
    153 <220> FEATURE:
    154 <223> OTHER INFORMATION: A synthetic DNA fragment
    156 <220> FEATURE:
    157 <221> NAME/KEY: misc_feature
    158 <222> LOCATION: 6-14
    159 <223> OTHER INFORMATION: n = A, T, G, or C
    161 <400> SEQUENCE: 8
W--> 162 ggatgnnnnn nnnn                                           14
    164 <210> SEQ ID NO: 9
    165 <211> LENGTH: 11
    166 <212> TYPE: DNA
    167 <213> ORGANISM: Artificial Sequence
    169 <220> FEATURE:
    170 <223> OTHER INFORMATION: A synthetic DNA fragment
    172 <220> FEATURE:
    173 <221> NAME/KEY: misc_feature
    174 <222> LOCATION: 1-5
    175 <223> OTHER INFORMATION: n = A, T, G or C
    177 <400> SEQUENCE: 9
W--> 178 nnnnngagac c                                              11
    180 <210> SEQ ID NO: 10
    181 <211> LENGTH: 10
    182 <212> TYPE: DNA
    183 <213> ORGANISM: Artificial Sequence
    185 <220> FEATURE:
    186 <223> OTHER INFORMATION: A synthetic DNA fragment
    190 <220> FEATURE:
    191 <221> NAME/KEY: misc_feature
    192 <222> LOCATION: 6-10
    193 <223> OTHER INFORMATION: N = A, T, G, or C
    196 <400> SEQUENCE: 10
W--> 197 gacgcnnnnn                                                10
    199 <210> SEQ ID NO: 11
    200 <211> LENGTH: 11
    201 <212> TYPE: DNA
    202 <213> ORGANISM: Artificial Sequence
    204 <220> FEATURE:
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RAW SEQUENCE LISTING   DATE: 06/02/2004
PATENT APPLICATION: US/10/702,228   TIME: 12:05:44

Input Set : A:\341030US1.txt
Output Set: N:\CRF4\06022004\J702228.raw

```
        205 <223> OTHER INFORMATION: A synthetic DNA fragment
        207 <220> FEATURE:
        208 <221> NAME/KEY: misc_feature
        209 <222> LOCATION: 3-9
        210 <223> OTHER INFORMATION: n = A, T, G, or C
        212 <400> SEQUENCE: 11
W--> 213 ccnnnnnnng g                                                   11
        215 <210> SEQ ID NO: 12
        216 <211> LENGTH: 11
        217 <212> TYPE: DNA
        218 <213> ORGANISM: Artificial Sequence
        220 <220> FEATURE:
        221 <223> OTHER INFORMATION: A synthetic DNA fragment
        223 <220> FEATURE:
        224 <221> NAME/KEY: misc_feature
        225 <222> LOCATION: 3-9
        226 <223> OTHER INFORMATION: n = A, T, G, or C
        228 <400> SEQUENCE: 12
W--> 229 gcnnnnnnng c                                                   11
        231 <210> SEQ ID NO: 13
        232 <211> LENGTH: 10
        233 <212> TYPE: DNA
        234 <213> ORGANISM: Artificial Sequence
        236 <220> FEATURE:
        237 <223> OTHER INFORMATION: A synthetic DNA fragment
        239 <220> FEATURE:
        240 <221> NAME/KEY: misc_feature
        241 <222> LOCATION: 1-5
        242 <223> OTHER INFORMATION: n = A, T, C, or G
        244 <400> SEQUENCE: 13
W--> 245 nnnnngagac                                                     10
        247 <210> SEQ ID NO: 14
        248 <211> LENGTH: 11
        249 <212> TYPE: DNA
        250 <213> ORGANISM: Artificial Sequence
        252 <220> FEATURE:
        253 <223> OTHER INFORMATION: A synthetic DNA fragment
        255 <220> FEATURE:
        256 <221> NAME/KEY: misc_feature
        257 <222> LOCATION: 4-8
        258 <223> OTHER INFORMATION: n = A, T, G, or C
        260 <400> SEQUENCE: 14
W--> 261 ccannnnntg g                                                   11
        263 <210> SEQ ID NO: 15
        264 <211> LENGTH: 15
        265 <212> TYPE: DNA
        266 <213> ORGANISM: Artificial Sequence
        268 <220> FEATURE:
        269 <223> OTHER INFORMATION: A synthetic DNA fragment
```

```
      271 <220> FEATURE:
      272 <221> NAME/KEY: misc_feature
      273 <222> LOCATION: 6-15
      274 <223> OTHER INFORMATION: n = A, T, G, or C
      276 <400> SEQUENCE: 15
W--> 277 gtcccnnnnn nnnnn                                              15
      279 <210> SEQ ID NO: 16
      280 <211> LENGTH: 11
      281 <212> TYPE: DNA
      282 <213> ORGANISM: Artificial Sequence
      284 <220> FEATURE:
      285 <223> OTHER INFORMATION: A synthetic DNA fragment
      287 <220> FEATURE:
      288 <221> NAME/KEY: misc_feature
      289 <222> LOCATION: 1-4
      290 <223> OTHER INFORMATION: n = A, T, G, or C
      292 <400> SEQUENCE: 16
W--> 293 nnnngaagag c                                                 11
      295 <210> SEQ ID NO: 17
      296 <211> LENGTH: 14
      297 <212> TYPE: DNA
      298 <213> ORGANISM: Artificial Sequence
      300 <220> FEATURE:
      301 <223> OTHER INFORMATION: A synthetic DNA fragment
      303 <220> FEATURE:
      304 <221> NAME/KEY: misc_feature
      305 <222> LOCATION: 1-8
      306 <223> OTHER INFORMATION: n = A, T, G, or C
      308 <400> SEQUENCE: 17
W--> 309 nnnnnnnngc aggt                                              14
      314 <210> SEQ ID NO: 18
      315 <211> LENGTH: 14
      316 <212> TYPE: DNA
      317 <213> ORGANISM: Artificial Sequence
      320 <220> FEATURE:
      321 <223> OTHER INFORMATION: A synthetic DNA fragment
      323 <220> FEATURE:
      324 <221> NAME/KEY: misc_feature
      325 <222> LOCATION: 1-9
      326 <223> OTHER INFORMATION: n = A, T, G, or C
      328 <400> SEQUENCE: 18
W--> 329 nnnnnnnnng atgc                                              14
      331 <210> SEQ ID NO: 19
      332 <211> LENGTH: 12
      333 <212> TYPE: DNA
      334 <213> ORGANISM: Artificial Sequence
      336 <220> FEATURE:
      337 <223> OTHER INFORMATION: A synthetic DNA fragment
      339 <220> FEATURE:
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RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 06/02/2004
PATENT APPLICATION: US/10/702,228   TIME: 12:05:45

Input Set : A:\341030US1.txt
Output Set: N:\CRF4\06022004\J702228.raw

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 18
Seq#:2; N Pos. 8,9,10,11
Seq#:3; N Pos. 1,2,3,4,5,6
Seq#:4; N Pos. 1,2,3,4
Seq#:5; N Pos. 6,7,8,9,10,11,12,13
Seq#:6; N Pos. 1,2,3,4,5
Seq#:7; N Pos. 4,5,6,7,8
Seq#:8; N Pos. 6,7,8,9,10,11,12,13,14
Seq#:9; N Pos. 1,2,3,4,5
Seq#:10; N Pos. 6,7,8,9,10
Seq#:11; N Pos. 3,4,5,6,7,8,9
Seq#:12; N Pos. 3,4,5,6,7,8,9
Seq#:13; N Pos. 1,2,3,4,5
Seq#:14; N Pos. 4,5,6,7,8
Seq#:15; N Pos. 6,7,8,9,10,11,12,13,14,15
Seq#:16; N Pos. 1,2,3,4
Seq#:17; N Pos. 1,2,3,4,5,6,7,8
Seq#:18; N Pos. 1,2,3,4,5,6,7,8,9
Seq#:19; N Pos. 4,5,6,7,8,9
Seq#:20; N Pos. 5,6,7,8,9
Seq#:21; N Pos. 1,2,3,4,5
Seq#:22; N Pos. 7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Seq#:23; N Pos. 4,5,6,7
Seq#:40; N Pos. 4,5,6,7
Seq#:54; N Pos. 4,5,6,7
Seq#:55; N Pos. 4,5,6,7
Seq#:69; N Pos. 14
Seq#:70; N Pos. 1,2,3
Seq#:71; N Pos. 1,2,3,4
Seq#:72; N Pos. 1,2,3,8,9,10
Seq#:73; N Pos. 6,7,8,9,10,11,12,13,14,15,16,17,18
Seq#:74; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13
Seq#:75; N Pos. 8,9,10,11,12,13,14,15
Seq#:76; N Pos. 8,9,10,11
Seq#:77; N Pos. 5,6,7,8,9
Seq#:78; N Pos. 8,9,10,11
Seq#:79; N Pos. 3,4,5,6,7,8,9
Seq#:80; N Pos. 5,6,7,8,9
Seq#:81; N Pos. 4,5,6,7,8
Seq#:82; N Pos. 7,8,9,10,11,12,13,14,15,16,17,18
Seq#:83; N Pos. 1
Seq#:84; N Pos. 1
Seq#:86; N Pos. 1,2,3,12
Seq#:87; N Pos. 1,2,3,11

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 06/02/2004
PATENT APPLICATION: US/10/702,228   TIME: 12:05:45

Input Set : A:\341030US1.txt
Output Set: N:\CRF4\06022004\J702228.raw

Seq#:88; N Pos. 1,2,3,11
Seq#:89; N Pos. 1
Seq#:91; N Pos. 1,2,3,12
Seq#:92; N Pos. 7,8,9,10

VERIFICATION SUMMARY   DATE: 06/02/2004
PATENT APPLICATION: **US/10/702,228**   TIME: 12:05:45

Input Set : **A:\341030US1.txt**
Output Set: **N:\CRF4\06022004\J702228.raw**

```
L:38 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:59 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0
L:81 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:97 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0
L:113 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0
L:129 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0
L:146 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0
L:162 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0
L:178 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0
L:197 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0
L:213 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0
L:229 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0
L:245 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0
L:261 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0
L:277 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0
L:293 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0
L:309 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0
L:329 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:0
L:345 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:0
L:361 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0
L:377 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:0
L:393 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:0
L:409 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:0
L:626 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:0
L:803 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54 after pos.:0
L:820 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:55 after pos.:0
L:998 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:69 after pos.:0
L:1016 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:70 after pos.:0
L:1037 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:71 after pos.:0
L:1065 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:72 after pos.:0
L:1082 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:73 after pos.:0
L:1098 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:74 after pos.:0
L:1114 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:75 after pos.:0
L:1131 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:0
L:1147 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:77 after pos.:0
L:1163 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:78 after pos.:0
L:1179 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:79 after pos.:0
L:1197 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:80 after pos.:0
L:1213 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:81 after pos.:0
L:1229 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:82 after pos.:0
L:1246 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:83 after pos.:0
L:1263 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:84 after pos.:0
L:1291 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:86 after pos.:0
L:1308 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:87 after pos.:0
L:1324 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:88 after pos.:0
L:1340 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:89 after pos.:0
L:1368 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:91 after pos.:0
L:1384 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:92 after pos.:0
```